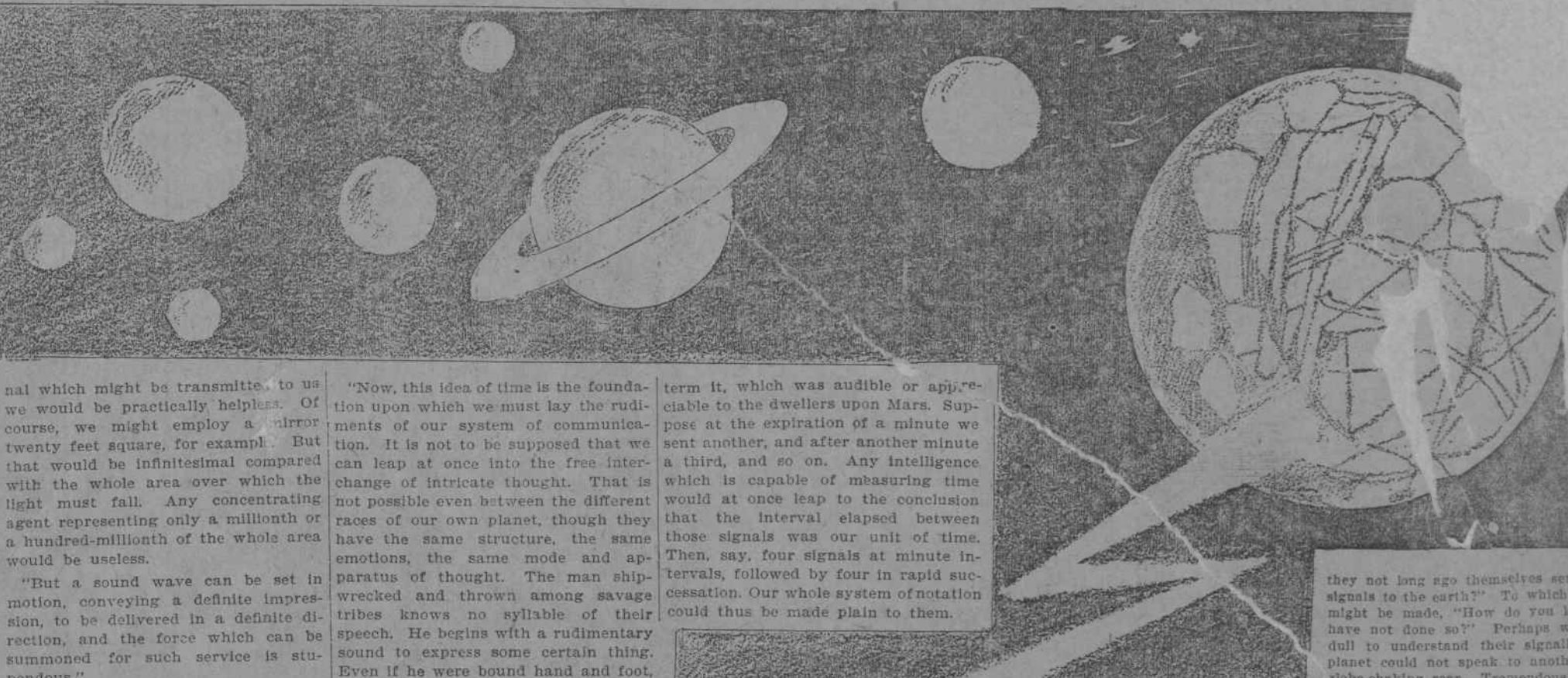
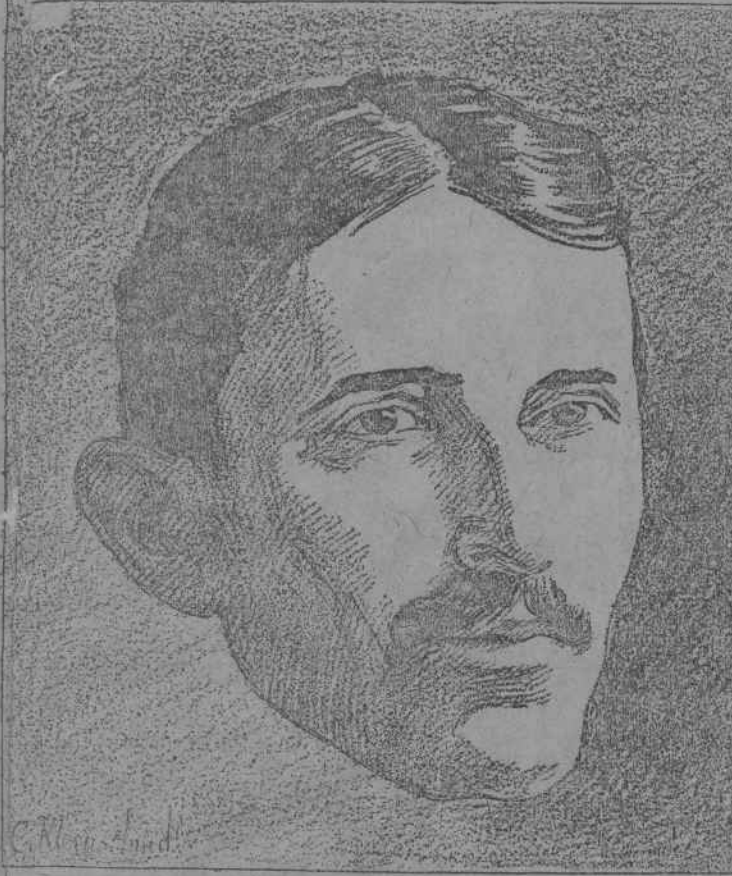


# TESLA TELLS HOW WE SHALL TALK WITH OTHER WORLDS



BY NICOLA TESLA.

The Great Electrician  
Declares That We Shall  
Talk in a Short Time  
with Mars.

TESLA, the world's greatest scientist, believes that the day is not far distant, as science measures time, when a serious attempt may be made to transmit intelligence to the planet Mars.

which this overmastering marvel of all ages may be brought to pass is the utilization of the earth's electricity, which he has already found to be a carrier spurning the finite trammels. The man who masters this problem of all the ages will be the greatest of his race. Kings and princes, and conquerors of whatever age will be only puppets and things of tinsel in the light of a genius which blinds worlds together.

"But a sound wave can be set in motion, conveying a definite impression, to be delivered in a definite direction, and the force which can be summoned for such service is stupendous."

"Now, this idea of time is the foundation upon which we must lay the rudiments of our system of communication. It is not to be supposed that we can leap at once into the free interchange of intricate thought. That is not possible even between the different races of our own planet, though they have the same structure, the same emotions, the same mode and apparatus of thought. The man shipwrecked and thrown among savage tribes knows no syllable of their speech. He begins with a rudimentary sound to express some certain thing. Even if he were bound hand and foot, and the power of gesture taken from him, still, by repetition and experiment and contemplation of their words, he would ultimately learn their language, and in ten years would speak it perfectly, perhaps to the exclusion and forgetting of his own. It is in the same way we would have to begin our communication with the inhabitants of Mars."

term it, which was audible or appreciable to the dwellers upon Mars. Suppose at the expiration of a minute we sent another, and after another minute a third, and so on. Any intelligence which is capable of measuring time would at once leap to the conclusion that the interval elapsed between those signals was our unit of time. Then, say, four signals at minute intervals, followed by four in rapid succession. Our whole system of notation could thus be made plain to them.

they not long ago themselves sent electric signals to the earth? To which the reply might be made, "How do you know they have not done so?" Perhaps we are too dull to understand their signalling. One planet could not speak to another with a "lobe-shaking roar. Tremendous flashes of light, visible to the naked eye across many millions of miles, could not be produced by human means. Interplanetary telegraphy, if it is ever effected, will be like the delicate signals sent through the Atlantic cable—slight impulses, that swing a minute mirror suspended by a hair, and write their message noiselessly with a beam of light for a pencil, or bathing the earth and yet we be unaware of their presence, although when we see them they would be

Similarly, if Mars, we could not had been received something in that world. Supposing, electric with Mars, the How shall we stand up? If but if they are sent as they are thing might be suppose that a Mars, and the must long ago and telephonic system of impulses, were earth to the ether, effects to be registered electric light. Let these impulses certain definite like taps, quick then a considerable three more signals believe that the phenomenon after instruments, would notice of it. The serve the regularity their renewal at and this in itself would artificial origin.

By Garrett P. Serviss.

The Eminent Astronomer  
Writes of the Possibilities of Mr. Tesla's Belief.

THE suggestion that by Mr. Tesla's system of telegraphing without wires electric signals might be sent from the earth to the other planets is not so incredible as it may at first sight appear. It is really no more wonderful that electricity should travel hundreds of millions of miles than that light should do so. We know that we could not see the planets as we do if the sunlight that falls upon them were not reflected back to our eyes. Each of the planets reflects light to all the others, but light, like electricity, is simply an undulation of the ether which fills all space. Where light can travel, electricity, which is the twin brother of light, can go also. The vehicle, or medium, that transmits them is the same in either case.

But, no doubt, these mysterious electric thereby they would be and study them with greater they had been thoroughly familiar the regular three signals, let that suddenly the number of from the earth were increased regular intervals between would deepen the impression that some intelligence was the system of signals, and it would become conviction a the signals were, from changed in number, but at exactly regular in sets of and screens and lines. A tion conducted with signals the same end. For instance, signals be sent, soon follow and then, after an interval awhile and then repeat it and so on, over and over hardly be long before serving this succession followed by a gap, two, four, would come the power which impulses know course on Mars as the laws of mathematics and two plus two as well as here.

"Thus upon a mathematical basis I believe a system could be founded which in the course of time could be developed into an intelligible code, capable even of conveying the most intricate communications. There is no limit to the possibilities of its development."

"Do you not believe, gauging the future steps by past progress in science, that an attempt at communication with Mars will be made within a comparatively short time, as time is counted in human progress?"

"Yes, I do. And that point of the ratio of human progress is a very interesting one, too—one upon which I began many years ago to make mathematical calculation. I was curious to know at what rate science moved."

"The progression must be geometrical."

"Vastly more than that," answered the inventor. "It is more nearly like the multiplication of germ life. It is almost incredible. Take, for example, the bacteria of carbon. Each one of millions produces millions. It preys upon organic matter and destroys it, but, fortunately, in so doing destroys itself. That is the only safeguard that living beings have. If it were not for that they would be utterly destroyed. It is the same way with races. A race grows in civilization and power until at last its over-civilization weakens it, and some barbarian people comes in and destroys it. But the seed of that civilization, left behind, is taken up and developed until the barbarian himself becomes over-civilized and in his turn falls. So history goes on forever, but the sum total of all these accomplishments furnishes us the rate of human advancement, and it is enormous."

If electric waves can be caused to pass from the earth's surface into space those waves will break on the shores of other worlds. If those distant shores are desert and lifeless, the waves will attract no attention and, unheeded, no response. But if intelligent beings dwell on the further side of the ocean of ether, it is conceivable that electric impulses sent from the earth could be so manipulated that they would serve for the communication of intelligible signals. Mr. Tesla says it is not impossible that a thing like that may be done, and when Mr. Tesla makes such a statement we are certainly safe in treating it as within the range of possibility.

And why should we not communicate with the other planets? Good reasons have been shown for thinking that one of them, Mars, is the abode of life. If it is we certainly want to know the fact, but knowledge of that fact alone would not suffice us. If there are other intellectual beings dwelling in this solar system of ours, warmed, lighted and physically governed by the same sun that nourishes and controls the earth, then we are interested in learning what they are and what they know, quite as much as in learning merely that they exist. There are good arguments to show that the Martians, if they exist at all, are probably more intelligent, more advanced in arts and sciences, than we have yet become. Then they could teach us something we ought to know if communication between our planet and theirs were opened up. Mr. Tesla's discoveries at least give room to hope that such communication is not entirely a dream of the imagination.

"It is upon the result of that calculation that I base the declaration of my belief that a serious attempt at transfer of intelligence to Mars will be made within a short time. Of course, I mean 'short' in the scientific sense. But I would not undertake to say how short or how long that time will probably be."

Now by this time questionably have the inhabitants of trying to communicate would at once what planet it were sent out, once launch signals the ether. The circles of waves reach all the planets. Elsewhere, closed, but on received with jubilation would tion where it was waiting to es the other from Mars! world would news. Every light in the people of Y An im-

But, it may be said, "If the Martians are there, and if they are so much brighter and more advanced than we, why have



## TESLA PREDICTS THAT TALKING WITH MARS IS CERTAIN IN TIME.

"The inhabitants of the planets, Mars, for example, must have intelligence. Their life must be made up of events. They must have a conception of time. And therefore they record events by means of measuring time, by recording events. Without that they have no history."

"Thus upon a mathematical basis I believe a system could be founded which in the course of time could be developed into an intelligible code, capable even of conveying the most intricate communications. There is no limit to the possibilities of its development."

"It is upon the result of that calculation that I base the declaration of my belief that a serious attempt at transfer of intelligence to Mars will be made within a short time. Of course, I mean 'short' in the scientific sense. But I would not undertake to say how short or how long that time will probably be."

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or understand what we are trying to convey to them?"

Tesla's eyes fairly sparkled as he listened to the question, waiting for its end with eagerness that he might begin his answer. He was enthusiastic, and spoke rapidly and with enchainment.

"It is simple," he said. "Listen. I have said that the inhabitants of the planets, Mars, for example, must have intelligence. Their life must be made up of events. They must have a conception of time. And therefore they must have means of measuring time, of recording events. Without that they could have no history."